

WHAT IS CLAIMED IS:

1. A process for treating a fluorine compound-containing gas, which comprises contacting a gas stream containing at least one of compounds of carbon and fluorine, compounds of carbon, hydrogen and fluorine, compounds of sulfur and fluorine, compounds of nitrogen and fluorine and compounds of carbon, hydrogen, oxygen and fluorine with a catalyst containing at least one of alumina, titania, zirconia and silica in the presence of steam, thereby hydrolyzing the fluorine compound to convert the fluorine of the fluorine compound to hydrogen fluoride.
2. A process according to Claim 1, wherein the catalyst is selected from the group consisting of alumina, titania, zirconia, silica, a mixture of titania and zirconia, a mixture of alumina and magnesia, a mixture of alumina and titania and a mixture of alumina and silica.
3. A process according to Claim 1, wherein the catalyst comprising a mixture of alumina and titania is in a weight ratio of alumina to titania of 75-98 : 25-2.
4. A process according to Claim 3, wherein the catalyst comprising a mixture of alumina and titania is a catalyst prepared from boehmite as an alumina raw material.
5. A process according to Claim 3, wherein the catalyst comprising a mixture of alumina and titania is a catalyst prepared from titanium sulfate as a titania raw

material.

6. A process according to Claim 3, wherein the catalyst comprising a mixture of alumina and titania is a catalyst prepared by adding sulfuric acid thereto during the catalyst preparation.

7. A process according to Claim 3, wherein the catalyst comprising a mixture of alumina and titania contains sulfate ions.

8. A process according to Claim 1, wherein the catalyst comprises a mixture of alumina, titania and at least one member selected from the group consisting of zirconia, tungsten oxide, silica, tin oxide, ceria, bismuth oxide, nickel oxide and boron oxide and having a weight ratio of at least one member selected from the group consisting of zirconia, tungsten oxide, silica, tin oxide, ceria, bismuth oxide, nickel oxide and boron oxide to sum total of alumina and titania being 0.1-10 : 99.9-90.

9. A process for treating a fluorine compound-containing gas, which comprises contacting a gas stream containing a compound comprising carbon and fluorine with a catalyst comprising a mixture of alumina, titania and zirconia, and having a weight ratio of alumina to titania being 75-98 : 25-2 and a weight ratio of zirconia to sum total of alumina and titania being 2-10 : 98-90, thereby hydrolyzing the compound comprising carbon and fluorine.

10. A process according to Claim 1, wherein the catalyst comprises a mixture of alumina and at least one

$Al_2O_3 + TiO_2 + ZrO_2$
composition

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7, 11. A process according to Claim 10, wherein the catalyst further contains 0.1 - 20% by weight of sulfur on the basis of the catalyst.

13. A process for treating a fluorine compound-containing gas, which comprises contacting a gas stream containing a fluorine compound comprising C_2F_6 with a catalyst comprising alumina and titania having a weight ratio of alumina to titania being 65-90 : 35-10, thereby hydrolyzing the fluorine compound to convert the fluorine in the gas stream to hydrogen fluoride.

14. A process for treating a fluorine compound-containing gas, which comprises contacting a gas stream containing a fluorine compound comprising C_2F_6 with a catalyst comprising alumina, titania and zirconia and having a weight ratio of alumina to titania being 65-90 : 35-10 and a weight ratio of zirconia to sum total of alumina and titania being 2-10 : 98-90, thereby hydrolyzing the fluorine compound to convert the fluorine

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stream to hydrogen fluoride. The process for treating the gas, which comprises converting a fluorine compound contained in the gas from the group containing the element fluorine with a catalyst comprising a metal oxide and having a molar ratio of the metal being 90-70 : 10-30, the compound to convert the hydrogen fluoride.

The process for treating the gas, which comprises a step comprising at least one step consisting of C_2F_6 , a catalyst comprising a metal oxide and having an atomic ratio of the metal being 95-60 : 5-40, the compound to convert the hydrogen fluoride.

The process for treating the gas, which comprises converting a fluorine compound contained in the gas comprising a mixture of hydrogen fluoride by hydrolyzing the hydrogen fluoride in the gas stream.

The process according to the invention is carried out at a temperature is $650^{\circ} - 800^{\circ}C$.

15. A process for treating a fluorine compound-containing gas, which comprises contacting a gas stream containing a fluorine compound comprising at least one member selected from the group consisting of C_2F_6 , CF_4 , C_4F_8 and CHF_3 with a catalyst comprising a mixture of alumina and zinc oxide and having an atomic ratio of aluminum to zinc being 90-70 : 10-30, thereby hydrolyzing the fluorine compound to convert the fluorine in the gas stream to hydrogen fluoride.
16. A process for treating a fluorine compound-containing gas, which comprises a gas stream containing a fluorine compound comprising at least one member selected from the group consisting of C_2F_6 , CF_4 , C_3F_8 , C_4F_8 , CHF_3 , NF_3 and SF_6 with a catalyst comprising a mixture of alumina and nickel oxide and having an atomic ratio of aluminum to nickel being 95-60 : 5-40, thereby hydrolyzing the fluorine compound to convert the fluorine in the gas stream to hydrogen fluoride.
17. A process for treating a fluorine compound-containing gas, which comprises contacting a gas stream containing a fluorine compound comprising C_4F_8 with a catalyst comprising a mixture of alumina and nickel oxide, thereby hydrolyzing the fluorine compound to convert the fluorine in the gas stream to hydrogen fluoride.
18. A process according to Claim 16, wherein a reaction temperature is $650^\circ - 800^\circ C$ for the hydrolysis

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add
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